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EXAMINER

YOUNG, JANELLE N

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,403

Applicant(s)

XU ET AL.

Examiner

Janelle N. Young

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 19, 2007 have been fully considered but they are not persuasive. See Rejection Below.

2. Applicant argues that Billstrom et al. teaches a method for performing multicast transmission in a cellular network (Abstract; Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 of Billstrom et al.), the method comprising the steps of: setting up radio resources for multicast transmission in a cell of the cellular network, when the presence report(s), received in said cell meet(s) predetermined criteria; and transmitting the multicast data using the radio resources set up for the multicast transmission (Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 in respect to Col. 15, lines 26-32 and Col. 19, lines 61-67 of Billstrom et al.).

Widegren et al. teaches a cellular network (Abstract; Fig. 1 & 3; Col. 1, lines 9-27; Col. 2, lines 11-33; and Col. 5, lines 29-55 in respect to Col. 11, lines 31-40 of Widegren et al.), which sending a cell update message; which reads on claimed presence report, from at least one of said mobile stations at the response moment of said at least one mobile station (Fig. 2; Col. 6, lines 51-67; and Col. 7, lines 41-53 of Widegren et al.), and receiving the cell update message(s); which reads on claimed

presence report(s), in a radio network controller located in a radio access network (Fig. 1 & 2; Col. 6, lines 51-67; and Col. 7, lines 41-53 of Widegren et al.),

Sato et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), wherein the selecting a moment for response, the response moment is specific to each of said mobile stations within a certain upcoming time period. (Fig. 20 and Page 1, Para 0004-0005 of Sato et al.).

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7-13, 16-24, 26-28 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom et al. (US Patent 5590133) and further in view of Widegren et al. (US Patent 6374112).

As of claim 1, Billstrom et al. teaches a method for performing multicast transmission in a cellular network (Abstract; Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 of Billstrom et al.), the method comprising the steps of:

transmitting a multicast service notification to a certain multicast group,
said notification to inform of an upcoming multicast session and receiving the

multicast service notification in mobile stations belonging to said multicast group (Abstract; Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 in respect to Col. 2, lines 27-46; Col. 4, lines 337-48; and Col. 9, line 30-Col. 10, line 6 of Billstrom et al.);

in response to said receiving the multicast service notification, selecting a moment for a response to said multicast service notification in said mobile stations (Abstract; Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 in respect to Col. 14, lines 17-31; Col. 15, line 46-Col. 16, line 29; and Col. 19, lines 24-60 of Billstrom et al.);

setting up radio resources for multicast transmission in a cell of the cellular network, when the presence report(s), received in said cell meet(s) predetermined criteria; and transmitting the multicast data using the radio resources set up for the multicast transmission (Abstract; Col. 1, lines 52-53; Col. 7, line 65-Col. 8, line 2; Col. 10, lines 17-19; and Col. 11, line 66-Col. 12, line 3 in respect to Col. 15, lines 26-32 and Col. 19, lines 61-67 of Billstrom et al.).

What Billstrom et al. does not explicitly teach is allocating radio resources in a UMTS system.

However, Widegren et al. teaches a cellular network (Abstract; Fig. 1 & 3; Col. 1, lines 9-27; Col. 2, lines 11-33; and Col. 5, lines 29-55 in respect to Col. 11, lines 31-40 of Widegren et al.), which sending a cell update message; which reads on claimed presence report, from at least one of said mobile stations at the response moment of said at least one mobile station (Fig. 2; Col. 6, lines 51-67; and Col. 7, lines 41-53 of

Widegren et al.), and receiving the cell update message(s); which reads on claimed presence report(s), in a radio network controller located in a radio access network (Fig. 1 & 2; Col. 6, lines 51-67; and Col. 7, lines 41-53 of Widegren et al.),

The motivation of this combination would be the effect of the maximizing the efficiency of radio resources and improves system performance, as taught by Widegren et al. in Col. 9, line 64-Col. 10, line 14, because the efficient use of radio resources is a very important factor, and the waste of radio resources affects the existing voice service and other services. This adds the repetitive operations, if the MBMS service was being served in the RNC. The incorporation of allocating radio resources techniques in the multicast transmission in a cellular network would provide a multicast service optimizing the shared packet transfer to and from multiple packet data and/or utilizing the multicast messaging (Col. 6, line 66-Col. 7, line 27; Col. 12, lines 48-60; and Col. 13, lines 57-61 of Billstrom et al.).

As of claim 7, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), further including checking the locations of said mobile stations in the cellular network (Col. 3, lines 44-54; Col. 3, line 66-Col. 4, line 16; Col. 6, line 51-67; and Col. 13, lines 12-29 in respect to Col. 11, lines 31-40 of Widegren et al.).

As of claim 8, Widegren et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), wherein the locations are checked at the routing area level, whereby the identities of the routing

areas are obtained where the mobile stations are located (Col. 6, lines 34-50; Col. 9, lines 5-32; and Col. 15, lines 21-38 of Widegren et al.).

As of claim 9, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein the transmitting of the multicast service notification includes transmitting said notification to all cells in the routing areas where the mobile stations are located (Col. 3, line 44-Col. 4, line 49 and Col. 12, line 63-Col. 13, line 11 of Widegren et al.).

As of claim 10, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), further comprising the step of checking the locations of at least some of said mobile stations at the cell level, whereby a set of cells are obtained containing mobile stations belonging to the multicast group (Col. 6, lines 34-50; Col. 9, lines 5-32; and Col. 15, lines 21-38 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

As of claim 11, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein the transmitting of the multicast service notification includes transmitting said notification within all cells in the routing areas where the mobile stations are located, except within said set of cells (Col. 7, lines 17-40; Col. 12, lines 33-45; and Col. 13, lines 12-29 of Widegren et al.).

As of claim 12, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein the setting up of the radio resources is performed for a cell when the number of presence

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reports received from the cell reaches a predetermined limit (Fig. 5; Col. 9, line 64-Col. 10, lines 14; and Col. 13, lines 12-29 of Widegren et al.).

As of claim 13, Widegren et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), wherein said limit is one (Col. 3, lines 23-32; Col. 7, lines 1-9; Col. 9, lines; and Col. 12, lines 12-45 of Widegren et al.).

As of claim 16, Widegren et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), further comprising the step of controlling and/or monitoring the number of members of the multicast group in a cell during the multicast session (Col. 4, lines 25-49 and Col. 7, lines 17-40 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

As of claim 17, Widegren et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), further comprising a MAC with the step of authenticating at least one of the mobile stations prior to the transmitting of the multicast data (Col. 5, line 62-Col. 6, line 21; Col. 13, lines 30-43 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

As of claim 18, Widegren et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), wherein the MAC has the authenticating at least one of the mobile stations includes (1) inserting a challenge in the multicast service notification and (2) returning a response in the presence report (Col. 5, line 62-Col. 6, line 21; Col. 13, lines 30-52; and Col. 14, lines 16-34 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

Regarding claim 19, see explanation as set forth regarding claim 1 (method claim) because the claimed system for performing multicast transmission in a cellular network would perform the method steps.

Regarding claim 20, see explanation as set forth regarding claim 12 (method claim) because the claimed system for performing multicast transmission in a cellular network would perform the method steps.

Regarding claim 21, see explanation as set forth regarding claim 13 (method claim) because the claimed system for performing multicast transmission in a cellular network would perform the method steps.

As of claim 22, Widegren et al. teaches a system for performing multicast transmission in a cellular network, further comprising termination unit in said mobile stations, said termination unit being configured to of release; which reads on claimed canceling, the sending of the presence report, in response to the reception of a predetermined message (Col. 5, line 63-Col. 6, line 21 and Col. 6, lines 51-67 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

As of claim 23, Widegren et al. teaches a system for performing multicast transmission in a cellular network, wherein at least one of the mobile stations is configured; which reads on claimed cancel the sending of the presence report, in response to receiving a presence report sent by another mobile station (Col. 7, line 54-Col. 8, line 14; Col. 14, line 16-34; and Col. 14, line 63-Col. 15, line 8 in respect to Col. 14, line 63-Col. 15, line 9 of Widegren et al.).

As of claim 24, Widegren et al. teaches a system for performing multicast transmission in a cellular network, wherein the predetermined message indicates that the radio resources have been established (Abstract; Col. 3, lines 22-43; Col. 5, line 63- Col. 6, line 21; Col. 6, lines 51-67; Col. 9, lines 5-32; Col. 14, line 63- Col. 15, line 20; and Col. 15, line 58-Col. 16, line 7 of Widegren et al.).

Regarding claim 26, see explanation as set forth regarding claim 17 (method claim) because the claimed system for performing multicast transmission in a cellular network would perform the method steps.

Regarding claim 27, see explanation as set forth regarding claim 1 (method claim) because the claimed mobile station for performing multicast transmission for a cellular network would perform the method steps.

Regarding claim 28, see explanation as set forth regarding claim 23 (method claim) because the claimed mobile station for performing multicast transmission for a cellular network would perform the method steps.

Regarding claim 30, see explanation as set forth regarding claim 1 (method claim) because the claimed system for performing multicast transmission in a cellular network would perform the method steps.

Regarding claim 31, see explanation as set forth regarding claim 1 (method claim) because the claimed mobile station for performing multicast transmission in a cellular network would perform the method steps.

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4. Claims 2-6, 14-15, 25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widegren et al. (US Patent 6374112) and Billstrom et al. (US Patent 5590133) as applied to claim 1 above, and further in view of Sato et al. (US Patent 20020106985).

As for claim 2, Billstrom et al. and Widegren et al. teach a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), radio bearer assignment notification, cancel/deactivating/terminating the sending of the presence report, and MBMS messages.

What Billstrom et al. and Widegren et al. do not explicitly teach are time periods and time elapses.

However, Sato et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), wherein the selecting a moment for response, the response moment is specific to each of said mobile stations within a certain upcoming time period. (Fig. 20 and Page 1, Para 0004-0005 of Sato et al.).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate time periods, random time, and time elapses techniques in order to generate smooth switching of base station from which information is received by a mobile set needed when the mobile set which is a radio terminal moves across service areas (in case of handoff) while receiving the multicast distribution of the information, as taught by Sato et al., in a cellular network of Widegren et al., because Widegren et al. already teaches radio resources. In addition, Billstrom et al. discusses a period of time between subsequent user information packets from a mobile station in

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the multicast transmission (Col. 2, lines 36-40; Col. 14, lines 45-55; Col. 16, lines 57-63; Col. 18, line 60-Col. 19, line 9; Col. 20, lines 1-13; and Col. 21, lines 14-56 of Billstrom et al.).

The motivation of this combination would be the effect of the maximizing the efficiency of radio resources and improves system performance, as taught by Widegren et al. in Col. 9, line 64-Col. 10, line 14, because the efficient use of radio resources is a very important factor, and the waste of radio resources affects the existing voice service and other services. This adds the repetitive operations, if the MBMS service was being served in the RNC. The incorporation of time periods, random time, and time elapses techniques in the multicast transmission in a cellular network would provide a multicast service providing system, method and, information distributing apparatus, radio terminal and radio base station by which radio resources can be effectively utilized, and, also, it becomes possible to properly perform multicast information distribution service via a radio section to radio terminals present within a service area. (Page 2, Para. 0020 of Sato et al.).

As of claim 3, Sato et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), further comprising the steps of:

informing at least some of said mobile stations of a presence report received in the radio access network (Page 1, Para 0004 of Sato et al.) and

in response to said informing step, canceling the sending of the presence report in a mobile station waiting for its response moment to arrive (Page 10, Para 0133; Page 11-12, Para 0157; and Page 12, Para 0164 of Sato et al.).

As of claim 4, Sato et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein said informing step includes sending a radio bearer assignment notification to said mobile stations in response to the setting up radio resources (Page 2, Para 0020-0021 and Page 12, Para 0164-0165 of Sato et al.).

As of claim 5, Sato et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein the selecting a moment for response includes selecting a random response moment within said upcoming time period (Page 1, Para 0004-0005; Page 8, Para 0106; and Page 16, Para 0217 of Sato et al.).

As of claim 6, Sato et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), further comprising the step of sending information on the length of the time period in the multicast service notification (Page 10, Para 0133 and Page 11, Para 0148 & 0153-0154 of Sato et al.).

As of claim 14, Sato et al. teaches a method for performing multicast transmission in a cellular network which includes mobile stations (MS), wherein the transmitting of the multicast service notification includes transmitting said notification periodically during said time period (Page 1, Para 0004; Page 3, Para 0026-0027; Page 11, Para 0153-0154; Page 12, Para 0165-0167; and Page 16, Para 0221 of Sato et al.).

As of claim 15, Sato et al. teaches a method for performing multicast transmission in a cellular network, which includes mobile stations (MS), further comprising: updating the length of the time period in the notifications transmitted periodically (Page 12, Para 0165-0167 and Page 16, Para 0217 of Sato et al.).

As of claim 25, Sato et al. teaches a system for performing multicast transmission in a cellular network, wherein said first means are adapted to select a random moment from within a given time period (Page 8, Para 0106 and Page 16, Para 0217 of Sato et al.).

As of claim 29, Sato et al. teaches a mobile station for performing multicast transmission for a cellular network, wherein the response means include timer means adapted to expire at the response moment (Page 8, Para 0109; Page 13, Para 0171; Page 15, Para 0207; and Page 16, Para 0219-0220 of Sato et al.).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Josse et al. (US Patent 6104929) invention relates to packetized data transmissions over a radio network, and more particularly, to routing of packets to the proper mobile switch currently serving a mobile radio.

Segura et al. (US Patent 6360076) invention relates to telecommunication systems and to a method of broadcasting a quality over-the-air multicast to a plurality of mobile terminals.

Haumont (US Patent 6466552) invention relates to a packet radio systems and to a method and arrangement for broadcasting group messages in a packet radio network, preferably a mobile radio network, such as a GPRS.

Beckmann et al. (US Pub 2003/0022683) invention is directed towards a method for transmitting multicast messages in a radio system, particularly a mobile radio system via which multicast messages can be transmitted reliably and securely with little expenditure.

Oh et al. (US Patent 6529490) invention relates to a handover method between mobile switching centers using an intelligent network and an IMT(International Mobile Telecommunication)-2000 network system adapting the same and to a handover method between mobile switching centers using an intelligent network and an IMT-2000 network system adapting the same which are capable of effectively managing a link resource for a radio transfer by performing a handover between mobile switching centers for an IMT-2000 network using an intelligent network.

Raivisto (US Patent 6556835) invention relates to a multicast service providing message delivery to selected subscribers in a mobile telecommunications network.

Kari et al. (US Patent 6636491) invention relates to controlling the user access to another system through a mobile communications network.

Sarkkinen et al (US Pub 20030211860) invention relates to systems and methods for the transmission of messages between at least one mobile station and another network without requiring connection to a controller of a wireless system containing the at least one mobile station.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle N. Young whose telephone number is (571) 272-2836. The examiner can normally be reached on Monday through Friday: 8:30 am through 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JNY
April 30, 2007


NAY MAUNG
SUPERVISORY PATENT EXAMINER